

BAV19WS, BAV20WS, BAV21WS-CH

Silicon Epitaxial Planar Diodes

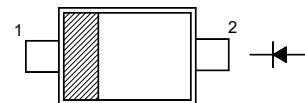
High voltage switching diode

Features

- AEC-Q101 Qualified
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Halogen and Antimony Free(HAF), RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-323 and symbol

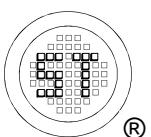
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage BAV19WS BAV20WS BAV21WS	V_{RRM}	120 200 250	V
Reverse Voltage BAV19WS BAV20WS BAV21WS	V_R	100 150 200	V
Average Rectified Forward Current	$I_{F(AV)}$	250	mA
Forward Continuous Current	I_{FM}	400	mA
Repetitive Peak Forward Current $t_p \leq 0.5 \text{ ms}$	I_{FRM}	1	A
Non-Repetitive Peak Forward Surge Current at $t = 100 \mu\text{s}$ at $t = 1 \text{ ms}$ at $t = 10 \text{ ms}$ at $t = 1 \text{ s}$	I_{FSM}	3 2.3 1.7 0.5	A
Power Dissipation	P_D	200	mW
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 65 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	625	°C/W

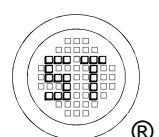
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(\text{BR})R}$	120	-	V
		200	-	
		250	-	
Reverse Current at $V_R = 100 \text{ V}$ at $V_R = 150 \text{ V}$ at $V_R = 200 \text{ V}$	I_R	-	100	nA
		-	100	
		-	100	
Forward Voltage at $I_F = 100 \text{ mA}$ at $I_F = 200 \text{ mA}$	V_F	-	1	V
		-	1.25	
		-	1.25	
Total Capacitance at $V_R = 0$, $f = 1 \text{ MHz}$	C_T	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30 \text{ mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100 \Omega$	t_{rr}	-	50	ns



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Electrical Characteristic Curve

Fig 1. Power Derating Curve

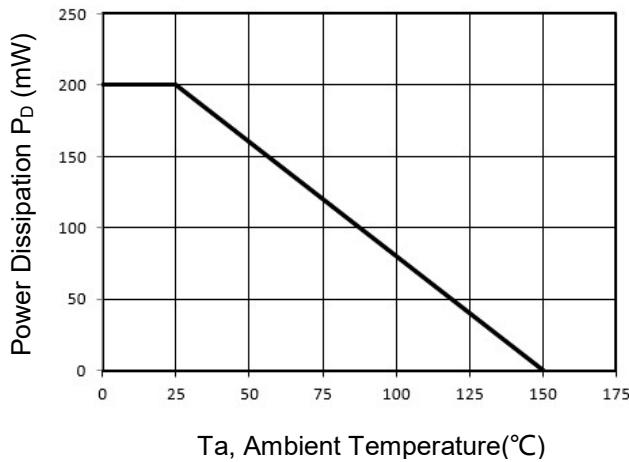


Fig 2. Forward Characteristic Curve

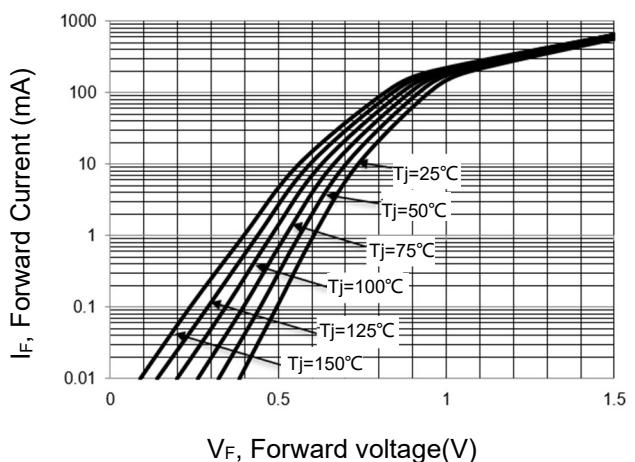


Fig 3. Reverse Characteristic Curve

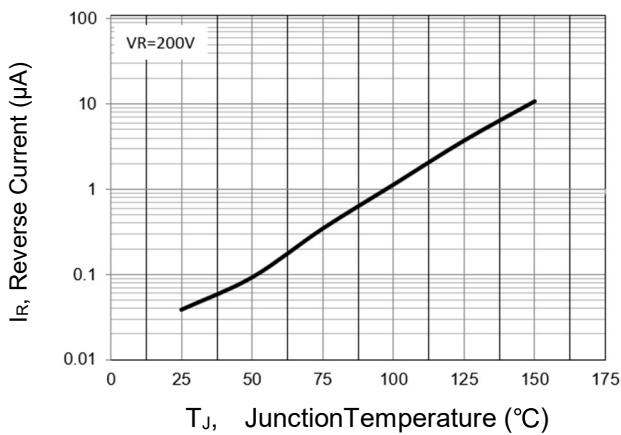
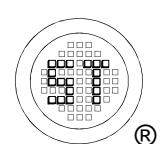
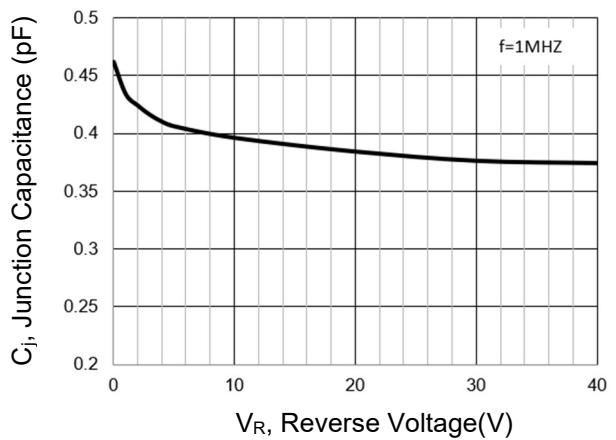


Fig 4. Junction Capacitance

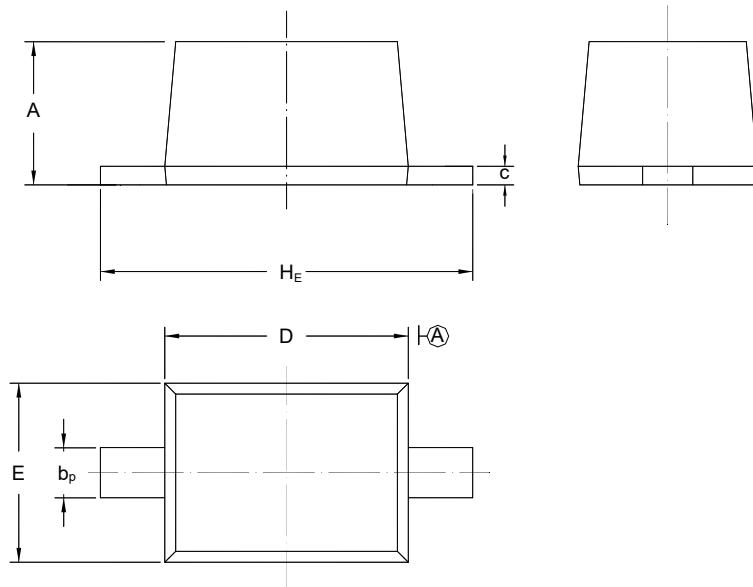


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PACKAGE OUTLINE

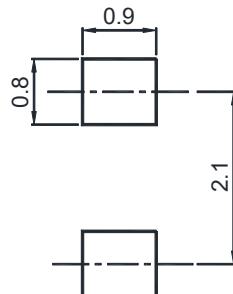
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b_p	C	D	E	H_E
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

Recommended Soldering Footprint



Packing information

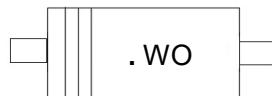
Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" WO " = Part No.

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)



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